

CLAIMS

1. A semiconductor light emitting device(10), comprising:
 - a GaP substrate(1);
 - 5 an active layer(4) located above said GaP substrate(1) and including an n-type layer and a p-type layer of a compound semiconductor;
 - an ELO layer(3) located between said GaP substrate(1) and said active layer(4) and formed by epitaxial lateral growth (ELO).
- 10 2. The semiconductor light emitting device(10) according to claim 1, comprising a growth supporting layer(2) located under and in contact with said ELO layer(3), wherein said ELO layer(3) fills a window portion(2a) formed in said growth supporting layer(2), and grows laterally abutting on the growth supporting layer(2).
- 15 3. The semiconductor light emitting device(10) according to claim 2, comprising a buffer layer(12) of the compound semiconductor on said GaP substrate(1), wherein said growth supporting layer(2) is located on and in contact with the buffer layer(12), and said ELO layer(3) fills said window portion(2a) so that said ELO layer is in contact with the buffer layer(12) and grows abutting on said growth supporting layer(2).
- 20 4. The semiconductor light emitting device(10) according to claim 2, wherein said growth supporting layer(2) is located in contact with said GaP substrate(1), said ELO layer(3) fills said window portion(2a) so that said ELO layer is in contact with the substrate(1) and grows abutting on said growth supporting layer(2).
- 25 5. The semiconductor light emitting device(10) according to claim 2, wherein said window portion(2a) is arranged linearly and/or in a broken line on both sides so as to sandwich a predetermined space, and has a pattern that is periodic in a plan view.

6. The semiconductor light emitting device(10) according to claim 2, wherein in a plan view, said ELO layer(3) is located to be encompassed by said window portion(2a), and an electrode(17) is arranged to surround said ELO layer(3) encompassed by the window portion(2a).

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7. The semiconductor light emitting device(10) according to claim 2, wherein in a plan view, said ELO layer(3) is encompassed by said window portion(2a) and located so as to surround a partial region of said growth supporting layer(2), and an electrode(17) is located on the partial region surrounded by the ELO layer(3).

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8. The semiconductor light emitting device(10) according to claim 2, wherein said growth supporting layer(2) is any of an insulator, conductor and dielectric multilayered body.

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9. The semiconductor light emitting device(10) according to claim 1, wherein said GaP substrate(1) is provided with a scratched trench(11), said ELO layer(3) fills the scratched trench(11) provided in said GaP substrate(1), and grows laterally abutting on the GaP substrate(1).

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10. The semiconductor light emitting device(10) according to claim 9, wherein said scratched trench(11) is arranged linearly and/or in a broken line on both sides so as to sandwich the predetermined space and has a pattern that is periodic in a plan view.

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11. The semiconductor light emitting device(10) according to claim 1, wherein said ELO layer(3) is any of an InGaAsP layer, InGaAs layer, GaAs layer, AlGaAs layer, AlInGaP layer, InGaP layer, and GaAsP layer.

12. The semiconductor light emitting device(10) according to claim 1, wherein said ELO layer(3) is formed through a liquid phase epitaxial growth.